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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,235	09/19/2003	Taroh Terashi	2271/71043	8483

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EXAMINER

SCHATZ, CHRISTOPHER

ART UNIT PAPER NUMBER

1733

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,235

Applicant(s)

TERASHI ET AL.

Examiner

Christopher T. Schatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 5-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-4 in the reply filed on December 15, 2005 is acknowledged. The traversal is on the ground(s) that the Groups are not independent and distinct. This is not found persuasive because it is only necessary for examiner to show that the Groups are distinct. While applicant states that restriction may be required when the Groups are independent and distinct, MPEP 803 clear states that the inventions must be independent or distinct. The Groups are distinct for the reasons the presented reasons in paragraph 2 of the office action dated November 14, 2005. Applicant has not refuted examiner's reasons. Additionally, examiner asserts that because the Groups are classified in different subclasses, it would present a serious search burden on the examiner. While applicant states that searching one Groups will likely turn up relevant references for the other, this is not necessarily true because the apparatus can be used to practice another method as stated in paragraph 2 of the office action dated November 14, 2005. As to Species A through F, examiner asserts that the species are mutually exclusive from each other and thus patentably distinct. Because each Species is patentably distinct, search all of the species would present a serious search burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claims 1 and 3 are objected to because of the following informalities: a typographical error is present. Examiner recommends that applicant change line 3 of the claim to "positioning a

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part and an adhering target at a prescribed.” In claim 3, “fed” should be replaced with “feed,” and “feeding back detection result” should be replace with “feeding back a detection result”

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, applicant states “changing curing energy in at least one of the light energy curable adhesives.” It is not clear to examiner how curing energy can be changed in the adhesive. Examiner recommends applicant change the limitation to state “changing irradiation energy such that at least one portion of at least one of the light energy curable adhesives experiences a change in irradiation energy.” Additionally, claim 1 recites the limitation “when the part and the target are displaced.” There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todie et al. '653 in view of either one of Holmes (US 2004/0111913) or Komaki et al. (US 2004/0246884).

Todie et al. discloses a method for adhering parts with light energy curable adhesive, said method comprising the steps of: positioning a part and an adhering target at prescribed relative position; coating plural sections between the part and adhering target with light energy curable adhesives; irradiating light energy to at least one of the light energy curable adhesives; generating a curing shrinkage force in at least one of the light energy curable adhesives; and adhering the part to the adhering target while maintaining the part and target at the prescribed position (figures 4, 16, 18, column 4, line 33 – column 5, line 17). While the reference discloses that it is desirable to reduce shrinkage of the adhesive upon curing, the reference is silent as to a method of changing curing energy to offset a curing shrinkage force.

Holmes discloses a method of adhering parts via a light energy curable adhesive, and further discloses that it is well known in the art to vary the curing energy force during an adhering process as a means to offset shrinkage forces (paragraph 0003). Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Todie et al. by changing curing energy directed to at least one of the light energy curable adhesives when the part and target are displaced such that at least one of the curing shrinkage forces can be changed and stresses generated by the curing shrinkage forces can be offset as taught by Holmes.

Komaki et al. discloses a method of adhering a part via an light energy curable adhesive, and further discloses a method wherein the curing energy directed toward at least one of the light energy adhesives is changed such that stresses generated by the curing shrinkage forces are offset. Changing curing energy is advantageous because, as disclosed by Komaki et al., doing so decreases the stresses that are caused as a result of shrinkage during curing (paragraph 0047-0051) Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Todie et al. by changing curing energy directed to at least one of the light energy curable adhesives when the part and target are displaced such that at least one of the curing shrinkage forces can be changed and stresses generated by the curing shrinkage forces can be offset as taught by Komaki et al. As to claim 2, both Holmes (paragraph 0001), and Komaki et al. (paragraph 0048-0051) discloses a method wherein curing energy changes one of an amount and a direction of at least one of the stresses. As to claim 4, both references disclose a method wherein said curing shrinkage forces are adjusted by selectively irradiating the light energy to at least one of the light energy curable adhesives so that one of an amount and a direction of at least one of the stresses can be changed to be offset. While neither reference explicitly states that the forces are adjusted "to be even," examiner asserts that it would have been well within the purview of one of ordinary skill in the art to adjust said forces to be even such that distortion and stress caused by shrinkage is minimized.

7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todie et al., Holmes, and Komaki et al. as applied above, and in further view of Tomiyama '104.

Todie et al., Holmes, and Komaki et al. disclose a method as stated above, but the references are silent as to a method of detecting displacement of the adhering part from the target

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during curing. Tomiyama et al. discloses a method of adhering a part to a target via a light curable adhesive, and further discloses detecting the displacement of the part from the target during the curing process, and changing a force exerted on one of the part and target as a result of a feed back signal from a detecting device such that the relative position of the part and the target can be adjusted (column 2, line 23 – column 3, line 43). The advantage of changing the relative position of the part and the target as a result of a feedback signal is that doing so allows the target to be aligned parallel to the part, thus producing a more even bond. Examiner acknowledges that Tomiyama et al. is not changing curing energy to affect displacement as a result of a feed back signal. However, it is well known, as disclosed by Tomiyama, that creating an even, straight bond is critical to the quality of the final product. Since it is known that shrinking during curing can negatively impact affect the bond evenness; adjusting curing energy to change shrinkage can positively impact said evenness; and better uniformity can be achieved as a result of adjustments based on a feed back signal from a displacement reading; one of ordinary skill in the art would have readily recognized to change the curing shrinkage force in accordance with a feed back detection result such that a relative position of a part and an adhering target can be adjusted. Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Todie et al., Holmes, and Komaki et al. by detecting displacement of the part from the adhering target during curing of the light energy curable adhesive, obtaining a detection result, and changing the curing shrinkage force based on the detection result such that the relative position of the part and the adhering target can be adjusted as taught by Tomiyama et al. above. As to claim 4, the references meet the limitations of the claim for the reasons discussed in paragraph 6 above.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher T. Schatz** whose telephone number is **571-272-1456**. The examiner can normally be reached on 8:00-5:30, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CTS


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